WHAT IS CLAIMED IS:

1. A quality of service (QoS) control system used for a radio transmitter/receiver, comprising:

a QoS control unit for supplying the modulator of said radio transmitter/receiver with the transmission data in the order taking the QoS into consideration; and

a determining unit connected to said QoS control unit for determining whether the QoS control operation of the transmission data is required or not in accordance with the information transmission conditions in the radio section;

wherein the QoS control operation of the transmission data by said QoS control unit is performed selectively in accordance with the information transmission conditions in the radio section.

2. A QoS control system according to Claim 1,

wherein said QoS control unit has a first operation mode for outputting said transmission data in the order of input and a second operation mode for outputting said transmission data in the order taking the QoS into consideration, said first and second operation modes being switchable to each other in accordance with the information transmission conditions in said radio section.

3. A QoS control system according to Claim 2,

wherein said QoS control unit includes a comparator for comparing said information transmission

rate for said radio section with a predetermined threshold value, said QoS control unit being switched to said second operation mode in the case where said information transmission rate for said radio section is lower than a predetermined threshold value, said QoS control unit being switched to said first operation mode in the case where said information transmission rate for said radio section is not lower than said predetermined threshold value.

4. A QoS control system according to Claim 3, wherein said QoS control unit has a queue unit for outputting said transmission data in the order of input in said first operation mode.

5. A QoS control system according to Claim 3, wherein said QoS control unit has a class-wise queue unit for setting the transmission data in a queue in accordance with the class of said transmission data in said second operation mode.

6. A QoS control system according to Claim 5, wherein said QoS control unit includes a class-wise band assignment table for setting a guarantee band for each class and a read control unit for reading the transmission data from said class-wise queue unit in accordance with said class-wise band assignment table.

7. A QoS control system according to Claim 1, wherein said information transmission rate for said radio section is obtained from the information

on specific bits contained in the received data.

8. A QoS control system according to Claim 1,

wherein said QoS control unit has a plurality of QoS control modes, and

wherein the QoS control mode applicable to the transmission data is switched between said plurality of said QoS control modes in accordance with the information transmission rate for said radio section.

9. A QoS control system according to Claim 8,

wherein said QoS control unit has a QoS control mode table for defining the relation between the range of the transmission rate for said radio section and the QoS control mode applicable to the transmission data, and

wherein said QoS control mode applicable to the transmission data is determined in accordance with the information transmission rate for the radio section with reference to said QoS control mode table.

10. A QoS control system according to Claim 8,

wherein said QoS control unit has a classification table showing the correspondence between the class and a specific QoS control mode defined by said QoS control mode table, and

wherein said classification table defines the class of each transmission data corresponding to the value of specific header information contained in said transmission data, and

wherein said QoS control unit determines the class of the transmission data in said specific QoS control mode with reference to said classification table.

11. A QoS control method for a radio transmitter/receiver, comprising:

a first step of determining whether the QoS control of the transmission data is required or not in accordance with the information transmission conditions in the radio section;

a second step of supplying the transmission data to the modulator of said radio transmitter/receiver in the order taking the QoS into consideration in the case where said QoS control operation is required; and

a third step of supplying the transmission data to said modulator in the order of input in the case where said QoS control operation is not required.

12. A QoS control method for a radio transmitter/receiver according to Claim 11,

wherein said second step includes the steps of determining the class of each of said transmission data, setting said transmission data in a class-wise queue corresponding to a determined class, and reading the transmission data from said class-wise queue in accordance with a class-wise band assignment table with a guaranteed band set for each class.

13. A radio transmitter/receiver comprising:

an adaptive modulation-type transmission unit connected to an antenna; and

a receiving unit connected to said antenna;

wherein said adaptive modulation-type transmission unit includes:

a high frequency unit connected to said antenna;

a modulation unit connected to said high-frequency unit;

a radio frame coding unit connected to said modulation unit for converting the transmission data into a format of a modulation scheme corresponding to the propagation path conditions in the radio section; and

a QoS control unit for supplying the transmission data to said radio frame coding unit in order taking the quality of service (QoS) into consideration.

14. A radio transmitter/receiver according to Claim 13, further comprising a propagation path estimation unit for estimating the conditions of the propagation path for the radio section from the signal received by said receiving unit.

15. A radio transmitter/receiver according to Claim 14, further comprising a modulation-type selecting unit connected to said propagation path estimation unit for selecting one of a plurality of modulation schemes.

16. A radio transmitter/receiver according to Claim 15,

wherein said plurality of the modulation schemes include 64 QAM, 16 QAM, QPSK and BPSK.

17. A radio transmitter/receiver according to Claim 13,

wherein said receiving unit includes means for extracting the information on the modulation scheme of the received data from said received data.

18. A fixed wireless access (FWA) system comprising:

a radio base station; and

a plurality of subscriber stations adapted to communicate with said base station by radio;

wherein selected one of said radio base station and said subscriber stations includes a radio transmitter/receiver according to Claim 13.